Alexander von Humboldt
Stiftung/Foundation

12th INDOGFOE-Symposium 2022 in Bremen

Conference Chairs: Prof. Dr. Rabibrata Mukherjee & Prof. Dr. Benedikt Schmülling

List of Sessions

- Electric Vehicle Systems for Future Carbon-Neutral Mobility
- Nanobiotechnology for Life Science Applications
- Surveillance vs. Privacy: Data Security in the Digital Age
- *Thin Film Science and Engineering (working title)*

Confirmed Session Chairs:
German Side

Session Electric Vehicle Systems […]

Prof. Dr.-Ing. Semih Severengiz
Head of Sustainable Technologies Laboratory
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Main areas of research

- Development and evaluation of sustainable concepts for mobility sharing
- Sustainability analysis and evaluation of technical products and services
- Development of criteria and indicators for the evaluation of sustainability effect
- Development of a blockchain-based token model for impact investors using the example of renewable energy

Indian Side:

Kaushik Basu
Associate Professor, Department of Electrical Engineering.
Indian Institute of Science, Bangalore, 560012-India.
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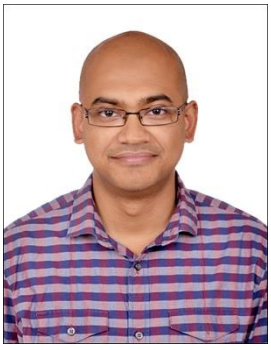

Kaushik Basu received the BE. Degree from the Bengal Engineering and Science University, Shibpore, India, in 2003, the M.S. degree in electrical engineering from the Indian Institute of Science, Bangalore, India, in 2005, and the PhD degree in electrical engineering from the University of Minnesota,

Minneapolis, in 2012, respectively. He was a Design Engineer with Cold Watt India in 2006 and an Electronics and Control Engineer with Dynapower Corporation USA from 2013-to 15. Currently, he is an Associate Professor in the Department of Electrical Engineering at the Indian Institute of Science. He has been an author and co-author of more than 80 technical papers published in peer-reviewed journals and conferences. His research interests include various aspects of the general area of Power Electronics and its wide range of applications, including grid integration of renewables and fast charging of electric vehicles to satellites. His work is funded by government agencies such as DST, and MietY, national labs like ISRO and industries such as Texas Instruments, Delta Electronics etc. He is an Associate Editor of IEEE Transactions on Power Electronics. He served as the Technical Program Committee Vice-Chair of IEEE ECCE, a flagship conference in Power Electronics in 2019 and 2021. In 2019, he received the Prof. Priti Shankar Teaching Award from IISc. He is IEEE senior member and is the founding chair of both IEEE PELS and IES Bangalore Chapter. He received Second Best Prize Paper Award from IEEE Transactions on Transportation Electrification in 2021.

Session Nanobiotechnology for Life Science Applications
German Side

Sylvia Wagner
Head of Department Bioprocessing & Bioanalytics
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Dr. Sylvia Wagner is Head of the Department “Bioprocessing & Bioanalytics” at Fraunhofer IBMT**.** She studied chemistry at the University Karlsruhe. She gained her PhD thesis in the group of Prof. Dr. H. v. Briesen at IBMT in 2010. From 2008-2016 she was group manager at IBMT. Her main research topics are focused on nanobiotechnology and development of preclinical *in vitro/ex vivo* models in the field of nanotoxicology as well as nanomedicine. Nanoparticulate formulations for the specific drug targeting as well as for crossing of biological barriers were preclinically tested in different *in vitro* and *ex vivo* cell culture models. Her department has established e.g., several blood-brain barrier cell culture models, a gastrointestinal barrier model, a lung model and a dermal barrier model for permeation studies. Her department was and still is involved in several joint research projects in the field of drug delivery systems based on nanotechnologies which were and are funded by EU and BMBF (“NanoDrug”; “NanoCancer”; “NanoBrain”; “BioTrap for CCC”) as well as projects supported by the German Federal Armed Forces and the private industry. One of her actual projects called “GITCare” is focused on the oral delivery of nanoparticulate packaged drugs for tumour therapy. Furthermore, several projects based on nanoparticle risk assessment are coming more and more into focus, e.g., the BMBF funded projects “MINAC” and “NanoUmwelt” and the EU funded project “HISENTS”.

Indian Side

Prof. Biman B. Mandal
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Prof. Biman B. Mandal is Associate Dean, Academics (UG) and Professor at Department of Biosciences and Bioengineering, School of Health Sciences & Technology and Centre for Nanotechnology, Indian Institute of Technology Guwahati (IITG), India. Dr. Mandal received his Ph.D from IIT Kharagpur and Post Doc from Tufts University, Boston, USA. His research interests are Tissue Engineering, 3D Bioprinting, Drug Delivery, Regenerative Medicine, In Vitro Disease Models for transplantation and high throughput drug screening applications.

Due to his seminal contributions to the field, Prof. Mandal is included as one of the "75 under 50 Scientists shaping today's India" a list prepared by DST, Govt. of India and in "World Top 2% Scientist List" prepared by Stanford University, USA. Prof. Mandal is an Associate Editor of ACS Biomaterials Science and Engineering and the current President of STERMI (Society for Tissue Engineering and Regenerative Medicine India). He has to his creditd 160+ high impact research articles, 23 filed/granted patents, licensed 03 healthcare technologies to Industry and 01 product launched to market. Prof. Mandal has bagged prestigious Young scientist awards from the Indian National Academy of Sciences (INSA), National Academy of Sciences India (NASI), NASI-SCOPUS Young Scientist award for his high citations, B. M. BIRLA Science Prize in Biology along with 06 other prestigious young scientist awards. Recently he has been awarded the prestigious SWARNAJAYANTI Fellowship & S. RAMACHANDRAN National Bioscience Award by DST and DBT, Govt. of India in Life Sciences for the year 2020-2021.

Session Surveillance vs. Privacy in the Digital Age

Prof. Dr. Michaela Geierhos
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After receiving his doctorate in 2010 as Dr. phil. in Computational Linguistics (summa cum laude) in Munich she was Junior Researcher in Residence at the Center for Advanced Studies at the University of Munich in 2012. In 2012 she received a BGF habilitation grant from the University of Munich. From 2013 to 2017 she was junior professor for business informatics, especially semantic information processing in Paderborn. After her habilitation (2011-2016, Venia Legendi for Computational Linguistics at the University of Munich), she taught at the University of Paderborn, where she was university professor for digital cultural studies from 2017 to March 2020. In 2020 she returned to Munich as a university professor for data science. At the University of the Federal Armed Forces in Munich, her professorship is based both at the research institute CODE and at the Institute for Data Security of the Faculty of Computer Science.
Geierhos was the winner in the "Engineering / Computer Science" category in the "Professors of the Year 2013" competition organized by Unicum magazine.

Indian Side

Prof Debdeep Mukhopadhyay

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Prof. Debdeep Mukhopadhyay is currently a Professor at the Department of Computer Science and Engineering, IIT Kharagpur, India. At IIT Kharagpur he initiated the Secured Embedded Architecture Laboratory (SEAL), with a focus on Hardware Security. He had worked as, visiting scientist at NTU Singapore, visiting Associate Professor of NYU Shanghai, Assistant Professor at IIT Madras, and Visiting Researcher at NYU Tandon School of Engineering, USA. He holds a Ph.D., an M.S., and a B.Tech from IIT Kharagpur.

His books include Fault Tolerant Architectures for Cryptography and Hardware Security (Springer), Cryptography and Network Security (Mc GrawHills), Hardware Security: Design, Threats, and Safeguards (CRC Press), and Timing Channels in Cryptography (Springer). He has written more than 250 papers in peer-reviewed conferences and journals and collaborated with several Indian/Foreign Organizations. He has been on the program committee and editorial boards of several top international conferences and journals.

Prof. Mukhopadhyay is the recipient of the prestigious Shanti Swarup Bhatnagar Award 2021 for Science & Technology, the Khosla National Award 2021 from IIT Roorkee, and is a Fellow of the Indian National Academy of Engineers. He was awarded the DST Swarnajayanti Fellowship 2015-16, Data Security Council of India Award for Cyber Security Education, ASEM-DUO Fellowship, INSA Young Scientist award, INAE Young Engineer award, Associateship for the Indian Academy of Sciences. He was awarded the Outstanding Young Faculty fellowship from IIT Kharagpur, and the Techno-Inventor Best PhD award from the Indian Semiconductor Association. He has recently incubated a start-up on Hardware Security, ESP Pvt. Ltd. at IIT Kharagpur, and is a senior member of IEEE and ACM.

Session Thin Film Science and Engineering

Prof. Dr. Daniel Neumaier
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Neumaier joined AMO in 2009 as head of the graphene research-division, focusing on the exploitation of graphene and other two-dimensional materials for applications in microelectronics and photonics. Milestone results have been the demonstration of a silicon-integrated photodetector with ultra-high speed (2014) and of the most sensitive Hall-effect sensor (2015), and contributions to the wafer-scale fabrication of graphene-based devices (2019). Since 2013, Neumaier is also the leader of the work package on Electronic Devices of the Graphene Flagship.

Neumaier and Lemme have found an agreement with the University of Wuppertal so that Neumaier can continue to support AMO as Scientific Advisor. Neumaier, who has been one of the founding members of the Aachen Graphene & 2D Materials Center, will also become now an Associated Member of the Center.

Indian Side

Prof Dipti Gupta

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Dr. Dipti Gupta is working as a Professor at Metallurgical Engineering and Material science (MEMS) department, Indian Institute of Technology Bombay (IITB), India. She received her B-Tech from IIT Kanpur and continued her M-Tech and Ph.D. degree in Materials and Metallurgical Engineering in the same institute. Later she worked as a BK-21 Postdoctoral Fellow at Korea Advanced Institute of Science and Technology (KAIST), Korea and as an EPSRC Research Associate at Imperial College, London, U.K.. She also spent two years with Department of Electrical Engineering, Seoul National University, Korea as BK Assistant Professor. She is also recipient of prestigious SERB Power Fellowship.

Currently, she is associated with Technology Innovation Hub (TIH) on IOT/IOE where she would be contributing towards Health-IOT, Sensors and Data Analysis. She is also associated with Center of Excellence in Nano electronics (CEN), IITB-Monash Research Academy (an initiative of IITB and Monash University), Wadhwani Research Center for Bioengineering (WRCB), National Center for Photovoltaic Research and Education (NCPRE), located at IIT Bombay, India. Her research interests are in the area of Flexible and Stretchable electronics, Wearable sensors for application in healthcare and energy applications.